



APPLIED RESEARCH LABORATORIES
THE UNIVERSITY OF TEXAS AT AUSTIN

P. O. Box 8029 • Austin, Texas 78713-8029 • (512) 835-3200 • FAX: (512) 835-3259

14 September 1995
NPC/ra
Ser TL-AS-95-07

From: Advanced Sonar Division

To: Commander
Naval Research Laboratory/Stennis Space Center
Stennis Space Center, MS 39529-5004

Attn: Dr. Michael Richardson, Code 7431


Subj: Quarterly Performance Report on "Bottom Scattering Strength Measurement and Analysis," under Grant No. N00014-95-1-G906, for the period 1 April 1995 through 30 June 1995

Ref: (a) Office of Naval Research Grant No. N00014-95-1-G906, "Bottom Scattering Strength Measurement and Analysis"

Encl: (1) Quarterly performance report
(2) Material Inspection and Receiving Report (DD Form 250) ASG0285

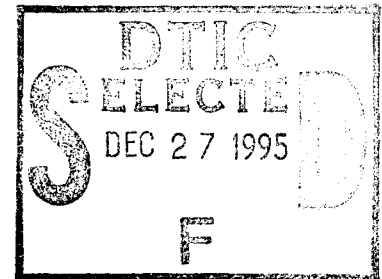
1. Enclosure (1) is submitted in compliance with Ref. (a) as the quarterly performance report.

2. Enclosure (2) is forwarded as required by DFARS, Appendix F, Distribution for the Material Inspection and Receiving Report. Please sign and return one copy to the address shown above, marked for the attention of the Contracts Office. A signed DD Form 250 is necessary for ARL:UT to maintain complete documentation files on the delivery of contractually required items.


Nicholas P. Chotiros

Copy to:
Advanced Sonar Group, ARL:UT
Library, ARL:UT

Copy to (w/o Encl (2)):
J. Huckabay, ARL:UT
ONR Res Rep, Austin, TX (1 copy)
NRL/SSC, Code 7032.2, Stennis Space Center, MS (7 copies)



DTIC QUALITY INSPECTED 1

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 14 Sep 95	3. REPORT TYPE AND DATES COVERED Quarterly Report, 1 Apr 95 - 30 Jun 95	
4. TITLE AND SUBTITLE Quarterly Performance Report on "Bottom Scattering Strength Measurement and Analysis," under Grant N00014-95-1-G906, for the period 1 Apr 95 - 30 Jun 95			5. FUNDING NUMBERS N00014-95-1-G906	
6. AUTHOR(S) Dr. Nicholas P. Chotiros				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Applied Research Laboratories The University of Texas at Austin P.O. Box 8029 Austin, TX 78713-8029			8. PERFORMING ORGANIZATION REPORT NUMBER NRL/CR/7431--95-0041	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Dr. Michael Richardson, Code 7431 Naval Research Laboratories/Stennis Space Center Stennis Space Center, MS 39529-5004			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) Collection of high frequency reverberation data from shallow water sediment, particularly coral and mud sediments for measurement on spatial backscatter statistics, using sensors mounted on a tripod on the bottom and on a ROV, in support of high frequency sonar imaging applications and sediment classification.				
14. SUBJECT TERMS			15. NUMBER OF PAGES 1	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	

19951219 023

Quarterly Performance Report

Grant No. N00014-95-1-G906

1 April 1995 - 30 June 1995

Principal Investigator: Nicholas P. Chotiros

Sponsor: Dr. Michael D. Richardson, NRL/SSC

Coastal Benthic Boundary Layer Special Research Program

Title: Bottom scattering strength measurement and analysis

Objective:

Collection of high frequency reverberation data from shallow water sediments, particularly coral and mud sediments for measurement of spatial backscatter statistics, using sensors mounted on a tripod on the bottom and on a remotely operated vehicle (ROV), in support of high frequency sonar imaging applications and sediment classification.

Progress

The sonar used on the Key West sea test was taken to the Lake Travis Test Station for a complete calibration check, using the exact same configuration as was used on the ROV in the sea test. The ROV operations were very successful, particularly the combination of acoustic data acquisition with visual inspection of the sediment which provided improved correlation between acoustic and measurements and bottom type. The calibration check included projector and receiver sensitivities and compensation for the effects of time-varying-gain (TVG) and automatic-gain-control (AGC) circuits. The calibrations were used to process the recorded acoustic data. The processing software was written in Labview for compatibility with the data acquisition system. In addition, preparations were made for the workshop on gassy sediments in Eckernförde, Germany, on the subject of acoustic bottom penetration based on data recorded by Steve Stanic on previous CBBL seatests.

Accession For		1
NTIS	CRA&I	<input checked="" type="checkbox"/>
DTIC	TAB	<input type="checkbox"/>
Unannounced		<input type="checkbox"/>
Justification		
By		
Distribution /		
Availability Codes		
Dist	Avail And/or Special	
A-1		

Enclosure (1) to ARL:UT
TL-AS-95-07
dtd 14 Sep 95